

2016. Since then, post-trial briefs have been filed, and closing arguments were presented in March 2017.

For the reasons set forth below, the Court finds that Central has failed to adduce evidence sufficient to show that, absent Reclamation's announcements, demand for surface water during the breach years would have exceeded the amount of water Reclamation actually made available to the district. Therefore, Central's request for expectancy damages must be **DENIED**.

BACKGROUND

I. The Origins of this Action

The background of this case is set forth at length in the many prior decisions of this court and the court of appeals. To recapitulate, Central is a California state agency that supplies agricultural irrigation water to farmers in the drought-prone Central Valley of California. Stockton E. Water Dist. v. United States (Stockton East II), 583 F.3d 1344, 1348 (Fed. Cir. 2009), aff'd on reh'g, 638 F.3d 781 (Fed. Cir. 2011). In 1983, Central entered into a contract with Reclamation for an appropriation of water from the New Melones Reservoir, one of many facilities composing the Central Valley Project (CVP).¹ See Stockton East IV, 761 F.3d at 1346; see also Stockton East II, 583 F.3d at 1349–50. As set forth in Article 3 of the contract, Reclamation promised that after a ten-year buildup period it would annually make available to the district a maximum of 80,000 and a minimum of 56,000 acre-feet of surface water. See Stockton East IV, 761 F.3d at 1346; see also id. at 1350.

In 1992, however, Congress enacted the Central Valley Project Improvement Act (CVPIA). That Act required Reclamation to annually dedicate 800,000 acre-feet of water from the CVP to fish, wildlife, and habitat restoration needs. Id. at 1347. In the spring of 1993, Reclamation announced at public meetings that it would not be able to meet the quantity commitments in its contracts because of the competing demands placed upon it by the CVPIA. See id. at 1346–47.

Thereafter, Central and other water districts filed suit in the United States District Court for the Eastern District of California, alleging that implementation of the CVPIA effected a taking of their water rights under the contracts without just compensation in violation of the Fifth Amendment's Takings Clause. Stockton East II, 583 F.3d at 1354. Approximately ten years later, in 2004, after extensive proceedings, the case was

¹ Stockton East Water District, another plaintiff in this lawsuit, also entered into a contract with Reclamation for an appropriation of water from the New Melones Reservoir in 1983. Stockton East II, 583 F.3d at 1350. Stockton East's damages trial proceeded separately, and the court issued a separate opinion regarding its damages. Mem. Op. & Order on Claims of Stockton E. Water Dist., ECF No. 371. That decision is not at issue here.

transferred to this court. See id.² The plaintiffs then amended their complaint to include a breach of contract claim for failure to make available the contractual minimum amounts of water from 1993 to 2004. Id.

II. Prior Proceedings

A. The First Trial and the Court of Appeals' Remand Decision

A trial was held in this case in late October and early November 2006. Thereafter, in February 2007, the judge previously assigned to this matter, Christine O.C. Miller, ruled against the plaintiffs with respect to their breach of contract claims. See Stockton East I, 75 Fed. Cl. at 361–72. She held that although Reclamation failed to make available the contractually required amounts of water for certain years covered by the contracts, Reclamation's non-performance in each of the years at issue was excused for a variety of reasons. See id. As most relevant here, Judge Miller determined that in 1994 and 1995, Reclamation had validly invoked the shortage provision of Article 9 of the contracts, which afforded Reclamation a defense in the event of a water shortage that occurred "because of drought, or other causes which, in the opinion of the Contracting Officer, are beyond the control of the United States."³ See Stockton East I, 75 Fed. Cl. at 356–57, 363–64.

The plaintiffs appealed Judge Miller's 2007 decision with respect to her finding of non-liability for 1994, 1995, and 1999–2004. Stockton East II, 583 F.3d at 1354. The Federal Circuit reversed her determination of non-liability for all years except 1994 and 1995. Id. at 1369. The Federal Circuit then remanded the case for a determination of the damages to which Central and Stockton East might be entitled based on Reclamation's breaches in 1999, 2000, 2001, 2002, 2003, and 2004. Id.

B. The Second Trial and this Court's Decision on Remand

After the court of appeals remanded the case, an eight-day damages trial was held in September 2012. At the trial, Central attempted to prove that its demand for surface water during each of the breach years would have amounted to at least 56,000 acre-feet if

² As the court explained in a prior opinion, over the ten years before the case was transferred to this court, there were numerous motions in the district court, multiple intervening parties, consolidation of related cases, and stays—all of which involved complex legal issues. See Stockton E. Water Dist. v. United States (Stockton East I), 75 Fed. Cl. 321, 330–47 (2007), aff'd in part & rev'd in part, 583 F.3d 1344 (Fed. Cir. 2009).

³ Judge Miller also found that Reclamation's failure to make water available in the remaining years did not constitute breaches because Central failed in certain years to submit contractually valid schedules requesting the water; because the parties agreed in certain years to modify water allocations as part of an interim plan of operations; and because Reclamation did not otherwise make unreasonable operational decisions. See id. at 361–72.

Reclamation had not breached the contract. See Stockton E. Water Dist. v. United States (Stockton East III), 109 Fed. Cl. 460, 486 (2013), aff'd in part & vacated in part, 761 F.3d 1344 (Fed. Cir. 2014). First, it claimed that, in a non-breach world, the district would have been required by the contract's "take or pay" provision to order at least 56,000 acre-feet of water in each of the breach years. Id. at 486–87. Alternatively, Central argued that the evidence showed: (1) that it would have purchased at least 56,000 acre-feet to meet the demands of local farmers; and (2) that, to the extent that the expected farmer demand did not materialize, Central would have sold the water to another district at a profit. Id. at 487–88, 493.

The government argued, on the other hand, that the "take or pay" provision of the contract would not have been enforced by Reclamation, and thus that Reclamation would not have charged Central for water that was never delivered to it. Id. at 486. Further, the government argued that "the evidence does not show an unmet demand, as Central fulfilled all farmer requests for surface water during the breach years, and there was water available to Central in the breach years that it did not take." Id. at 489; see also id. at 474 (charts reflecting that Reclamation delivered more water to Central than Central requested during some of the breach years).

The court rejected Central's arguments. First, the court agreed with the government's argument that, in a non-breach world, Reclamation would not have enforced the "take or pay" provision. Id. at 487. Thus, it noted that "[t]he practice of the parties, in both breach and non-breach years, was for Central to pay only for water actually delivered by Reclamation." Id. It held that "the terms of the 1983 Contract do not support a finding that Central would have taken 56,000 acre-feet of water in each of the years 1999–2004 if Reclamation had not breached." Id.

The court also found unpersuasive Central's second argument, which Judge Miller characterized as a claim that "agricultural demand for a full allotment of New Melones water would have been present during the breach years but for Reclamation's failure to make those full allotments available." Id. at 490; see also id. at 487–88 (stating that "[t]he thrust of Central's position is that demand existed by its farmers sufficient to take that amount of New Melones water each year, but that Reclamation's failure to make the contract minimums available in the breach years dampened that demand").

In making this determination, Judge Miller rejected the conclusions Central asked her to draw from several pieces of evidence that pre-dated Reclamation's 1993 announcements. Thus, the court first found unavailing Central's reliance upon a July 8, 1983, Reclamation memorandum which had estimated Central's New Melones water requirements at 72,000 acre-feet per year.⁴ Id. at 488, 490.

⁴ The court concluded that the 1983 documents and studies upon which Central relied were "temporally too far removed from the breach years to provide a plausible indication as to Central's agricultural demand for surface water from 1999 to 2004." Stockton East III, 109 Fed. Cl. at 490. It further noted that the 1983 documents were "planning

The court concluded that “[a] similar problem” existed with respect to Central’s reliance upon a November 21, 1990 report prepared by the engineering firm CH2M Hill Consulting Engineers (CH2M). Id. That report concerned the design and cost of the water conveyance system that Central would be required to build in order to use New Melones water. Id. at 488. According to the report, CH2M had conducted surveys and interviews with farmers within Central, who indicated that they would take approximately 65,000 acre-feet of water per year.⁵ Id. The court observed that CH2M’s “efforts were undertaken to support Central’s decision to move forward with construction of its water conveyance system, and they tend to establish that Central believed there was sufficient farmer demand for surface water to approve construction of Central’s surface water conveyance system.” Id. at 490.

The court found, however, that the report did not provide “probative evidence of farmer demand for surface water.” Id. It observed that Central had not introduced into evidence any of the surveys or interviews CH2M conducted regarding the farmers’ interest in taking water, forcing the court to rely on “their characterization by [Central’s General Counsel] as the non-binding expressed intentions of Central’s farmers.” Id. In particular, the court observed that because it could not review substance of the surveys and interviews, it was “impossible to determine whether and to what extent [they] addressed the costs associated with the use of surface water, and therefore the nature of farmer enthusiasm apparently expressed” to CH2M.⁶ Id.

The court also found unpersuasive the testimony regarding a farmer survey Central itself conducted in March 1991 (after delivery of the CH2M report). See id. at 488, 490–91. As discussed in more detail below, to conduct the survey, Central had

documents whose apparent purpose was to estimate Central’s yearly agricultural demand for surface water.” Id. Therefore, the court concluded, although the documents “provide[d] evidence of what Reclamation, Central, and the State of California Water Resources Control Board believed, in 1983, about what Central’s surface water needs would be in the future, they [we]re not probative of what farmer demand for surface water would have been absent Reclamation’s breach in the years 1999 to 2004.” Id.

⁵ CH2M reduced the 65,000 acre-feet figure “by 20% for revenue projection purposes, to 50,000 acre-feet per year.” See id. at 488. According to Central’s hydrology expert, “a conveyance loss of 30% occurs as water travels from the New Melones Reservoir to the agricultural land in Central’s district.” Id. Central thus argued that to meet the demand for 50,000 acre-feet of water, over 70,000 acre-feet would need to be released to account for the conveyance loss. See id.

⁶ As the court observed, the chairman of Central’s board of directors had testified that equipment must be installed in order for a farmer to use surface water and that “[i]nstalling that equipment requires an investment of time and money on the farmer’s part.” Id. at 490. In fact, applications to Central’s capital improvement program “showed equipment costs ranging from \$8,200.00 to \$136,396.59, and averaging roughly \$35,000.00.” Id.

solicited letters of intent from dozens of farmers within the water district. See infra Part III.B.1 (testimony of representative farmers). At the second trial, Central did not introduce the letters of intent themselves into evidence; but Central General Counsel testified that letters reflected an aggregate demand for 55,000 acre-feet of water per year. See id. at 488, 490–91. The court found that this testimony “merits less weight than the C[H]2M report” because “Central presented no documentary evidence of either [the General Counsel’s] survey or the responses thereto.” Id. at 491. While the General Counsel “stated that the responses indicated a commitment to take a quantity of water,” the court observed, “without the responses themselves, the court cannot gauge the nature of that ‘commitment.’” Id. (quotation and alterations omitted). “For example,” the court noted, “it [wa]s impossible to determine the survey’s treatment of the costs associated with making use of surface water.” Id.

In short, the court found that the General Counsel’s testimony regarding the survey “d[id] not provide credible evidence that . . . demand would have translated into actual utilization of surface water by those farmers in the absence of Reclamation’s breach in any given breach year, let alone for 1994–1998, which were prior non-breach years.” Id. Indeed, the court observed, “[g]iven Central’s position that its farmers were enthusiastic about using surface water until it became clear that the surface water Central planned to receive from Reclamation was not forthcoming, the absence of testimony from any farmers regarding their surface water plans is conspicuous.” Id.

In addition to discounting Central’s pre-1993 evidence, Judge Miller also rejected Central’s attempt to establish that the amounts of water it requested in the years immediately following the 1993 breach announcements were probative of how much demand would have existed in the breach years starting in 1999. Thus, Central apparently argued that the fact that it had requested but not received a total of 25,000 acre-feet of surface water from Reclamation in 1994, 50,000 acre-feet in 1995, and 40,000 acre-feet in 1996 showed that there was also an unmet demand for surface water during the breach years. See id. at 487–8. The court, however, rejected Central’s reliance upon its requests for water in 1994 and 1995 as evidence of what a non-breach world would have looked like because those years “were drought years” in which Reclamation’s failure to make the full allotments available was excused under the contract. Id. (noting that the demand in those years “reflect[ed], in a sense, the breach world, i.e., the world in which Reclamation did not make full allocations available”).

With respect to 1996, a non-breach year, Reclamation had made available to Central the full 40,000 acre-feet that Central requested, but Central took only 17,508 acre-feet. “Thus,” the court observed, “for the one year that would be indicative of the non-breach world, Central took less water than it demanded or that Reclamation allowed to it.” Id. at 490. Therefore, the court reasoned, the example of that year “provide[d] no support for the notion that Central had farmer demand of 40,000 acre-feet of New Melones water in a non-breach world.” Id.

In summary, the court concluded that “Central ha[d] not adduced persuasive evidence demonstrating how much New Melones water its farmers, having made the required financial investment, plausibly might have requested in the 1999–2004 non-

breach world where Reclamation made full allocations under the 1983 Contract.” Id. at 492. “[A]ccordingly,” the court continued, Central “ha[d] not demonstrated that its farmers plausibly would have taken 56,000 acre-feet of water in each of the breach years.” Id. at 492–93. And, given the court’s further conclusion that Central had not proven that it would have sold any excess water if such water had been made available to it, the court concluded that Central had failed to carry its burden of establishing its entitlement to an award of expectancy damages. Id. at 494.

C. The Second Appeal and Remand

After Judge Miller ruled that Central had not demonstrated its entitlement to expectancy damages, Central filed a second appeal. Central’s primary argument in this second appeal was that the “take or pay” provision (Article 3 of the contract) required Reclamation to deliver a minimum of 56,000 acre-feet of water per year to Central irrespective of demand, and that Article 5 required Central to pay for this quantity. See Brief for Plaintiff-Appellant at 15, Stockton East IV, 761 F.3d 1344 (No. 13-5078), ECF No. 10. It was therefore “nonsensical,” Central contended, “for the trial court to require that Central prove how much water, up to a ceiling of 56,000 acre-feet, Reclamation would have delivered in the non-breach world.” Id. at 17. According to Central, the court’s failure to appreciate that “[t]he non-breach world required delivery of at least the 56,000 acre-foot contract minimum” was an error which “sent the court and the parties on a wild goose chase to try to prove the entirely irrelevant question of how much water Central’s farmers would have requested if Reclamation’s breaches had not discouraged them from making requests.” id. at 17, 30.

Alternatively, Central argued, even if Reclamation was not obliged to deliver (and Central obliged to pay for) 56,000 acre-feet of water, Central had “introduced substantial evidence at trial that Central would have requested and its farmers would have used more than the 56,000 acre-foot minimum and in fact would have used all of the water Reclamation could have delivered to Central—up to 80,000 acre-feet of water annually—during the breach years.” Id. at 18. This evidence, Central argued, included: (1) testimony showing that Central needed at least 56,000 acre-feet per year of surface water to alleviate the depletion of its groundwater; (2) the early forecasts and surveys of farmers’ intent to purchase surface water (which Judge Miller had discredited); and (3) evidence (also discredited by Judge Miller) that Central would have sold any excess water it received from Reclamation. Id.

The court of appeals ultimately reversed Judge Miller’s ruling regarding Central’s entitlement to expectancy damages, but not on any of the grounds that Central urged. In particular, the court of appeals rejected Central’s argument that the contract required Reclamation to deliver (as opposed to merely “make available”) the specified minimum amounts of water, as well as its related argument regarding the “take or pay” nature of the contract. Stockton East IV, 761 F.3d at 1351. On this point, it held that “[t]he contract explicitly says that [Reclamation’s] burden is to make the water available, not to deliver it.” Id.

Further, in reversing Judge Miller's decision, the court of appeals did not address Central's arguments that Judge Miller erred when she found that the pre-breach forecasts and surveys conducted by Reclamation and by Central were not reliable indicators of what farmer demand would have been in a non-breach world. See id. at 1350–53. Nor did it discuss Judge Miller's conclusion—challenged by Central—that the district had failed to prove that it would have sold any excess water it received from Reclamation. See id.

Nonetheless, the court of appeals concluded that the court had erred in its “analysis of how expectancy damages are to be analyzed based on the facts of this case.” Id. at 1351. As noted, Judge Miller determined that Central had failed to prove that “demand for a full allotment of New Melones water would have been present during the breach years but for Reclamation's failure to make those full allotments available.” Stockton East III, 109 Fed. Cl. at 490. According to the court of appeals, however, “[a] crucial event in this case” was Reclamation's 1993 announcement that “it would not be able to meet the minimum allocations provided for in the contract,” which pre-dated its subsequent failure to make full allotments available. Stockton East IV, 761 F.3d at 1351. Thus, the court of appeals stated, “the question the trial court should have been examining in determining the ‘but for’ non-breach world is: what would have happened had Reclamation not announced in 1993 (and later years) that it would be unable to meet—to ‘make available’—the minimum allocations provided for in the contract?” Id.

According to the court of appeals, this court's analysis of what farmer demand would have been in a non-breach world had been too focused “on the simple fact that Central took less water than it demanded or tha[n] Reclamation allocated to it in 1996, a year the trial court found would be indicative of the non-breach world.” Id. at 1352. Instead of focusing on the actual demand for water after Reclamation's announcements, the court of appeals concluded, this court “should have considered the impact of the announced breaches on the requests from 1999–2004.” Id. at 1353. By failing to take the effect of the announcements into consideration, the court of appeals stated, this court “adopted a legally erroneous limitation on the required analysis.” Id.

In particular, the court of appeals believed that this court had “assumed, erroneously, and without considering the lingering impact of the pre-1999 announcements, that Central's failure to request the contractual minimum quantity of water every year was because there was insufficient demand for the water from Central's potential customers.” Id. at 1352. Thus, the court of appeals observed, this court's analysis did not take into account the possibility (which the court of appeals characterized as “eminently plausible”) that “the Government's announced non-performance in 1993 and the years following caused any lack of expressed demand for water and for requests by Central for less than the contract minimum quantities in 1999–2004.” Id. According to the court of appeals, “[b]y 1994, and certainly by 1999, Central and its farmer clients were on notice that Reclamation was not going to supply the contractual quantities of water, whether or not circumstances conspired to provide Reclamation legal excuses in certain years.” Id. “At some point,” the court of appeals observed, “most people stop asking for what they have been told they are not going to get, and they make other plans to meet their needs.” Id.

Accordingly, the court of appeals vacated this court's judgment denying an award of any expectancy damages "[b]ecause the trial court did not take into account the effect of Reclamation's announcements on the expectations of the district and the agricultural community it served." Id. at 1353. The court of appeals remanded the case back to this court "for a damages determination consistent with [its] opinion." Id. It left it to this court "to determine if the record needs to be reopened to allow evidence relevant to the damages occurring as a result of the breaches as defined herein." Id.

III. The Proceedings on the Present Remand

A. Pre-Trial

This case was reassigned to the undersigned while the second appeal was pending. See Order, ECF No. 384. After the court of appeals issued its mandate remanding the case to this Court, Central filed a motion seeking entry of partial final judgment as to certain cost of cover damages, which the Court granted on January 27, 2015. Op. & Order Granting Pl.'s Mot. for Partial Final J. at 2, ECF No. 391. The Court also directed the parties to file a joint status report proposing future proceedings in the case. Id. at 6.

The parties filed their report on March 6, 2015. Joint Status Report, ECF No. 396. In the report, Central requested a "limited reopening of the trial record." Id. at 7. Central stated that if the trial record was reopened, it "would proffer evidence, as the Federal Circuit anticipated, that farmers would have requested significantly more water in the but-for non-breach world in which Reclamation had not announced in 1993 and later years that it would be unable to meet the minimum allocations provided by the contract." Id.

The government initially expressed opposition to Central's request that the record be reopened. See id. at 9. However, it did not press that opposition during an April 1, 2015 status conference. See Tr. of Proceedings (Apr. 1, 2015), ECF No. 400. The Court, therefore, reopened the record and established a discovery schedule. See Scheduling Order, ECF No. 398. In addition, at the government's request, the Court clarified that the "announcements" whose effect the Court would consider on remand "would include any communications that came either directly or indirectly from the government beginning in 1993 and up until 1999 that put [Central or its] farmer clients on notice that the Bureau of Reclamation would or might not make available the minimum contractual allocations," irrespective of the contractual requirements. See Order at 1–3, ECF No. 405.

B. Evidence Submitted on Remand

A third trial, lasting approximately three days, was held in July of 2016. At the trial, Central introduced additional documents and called seven farmers as witnesses. In addition, both Central and the government presented the testimony of expert witnesses. The pertinent aspects of the witnesses' testimony are summarized below.

1. Farmer Witnesses

a. Richard Veldstra

Central's first witness was Richard Veldstra. Mr. Veldstra is a farmer and has been a member of Central's Board of Directors since 2013. Trial Tr. at 20–21, 66–67 (July 12, 2016), ECF No. 450 (hereinafter "Trial Tr. Vol. I").

The Veldstra family farm is located in Escalon, California, which is within the Central San Joaquin Water District. Id. at 22, 25. The farm consists of 280 acres. Id. at 22. Mr. Veldstra owns forty acres and leases the remaining 240 acres from a family trust, of which his mother is one of the trustees. See id.; see also id. at 57.

Mr. Veldstra testified that because the precipitation in the Central Valley is insufficient to support the farm's crops, his family has historically irrigated the farm with well water drawn from an underground aquifer. Id. at 25–27. According to Mr. Veldstra, the water levels in the aquifer have dropped over the years as a result of decreased rainfall and increased agricultural demand. Id. at 27–29. As a consequence, it has become more expensive to irrigate the farm's crops, because the family has been required to dig deeper wells, install more powerful pumps, and pay utility fees to upgrade transformers and electrical boxes. Id. at 29–31.

Mr. Veldstra testified that he preferred to use surface water for irrigation if possible. Id. at 34–35. Among other things, he testified that surface water was of superior quality and that flowing surface water allows for quicker irrigation which results in less water loss. Id. at 35–36, 43–44. Moreover, he estimated that the surface water would cost him \$15 per acre-foot less than groundwater. Id. at 36.

In March of 1991, Mr. Veldstra's mother, on behalf of the family estate and at Mr. Veldstra's urging, filled in and submitted to Central a letter of intent in which she "commit[ed]" to purchasing 100 acre-feet of water from Central at a charge not to exceed \$30 per acre-foot. Id. at 31–32; see also Pl.'s Ex. 1127 at 5456. This letter of intent was one of many that Central solicited from district farmers before it sought bids for the construction of a distribution system for the delivery of surface water. See Pl.'s Ex. 1134 (letter from Central soliciting letters of intent). The solicitation letter stated, in pertinent part, as follows:

In order that the Board may make an informed decision, the District requires from each water user a firm commitment to take water when available. The Board hereby requests that you complete the enclosed form regarding your commitment to take water. . . . [T]he District will utilize this information to expend construction funds and to incur long-term District-wide debt. This debt must be paid regardless of the quantity of water actually sold. Therefore, please respond with your best estimate.

Id. at 5645. The letter further stated:

The Board will utilize your response to compile a list of expected water users. The first year that water is available from the Project, the District will contact those who have committed to take water. Annual contracts will be executed setting forth the quantity of water to be taken and the price to be paid.

Id.

Mr. Veldstra characterized the 100 acre-feet of water his family estimated it would order as a “relatively modest” amount which would serve as a “good test.” Trial Tr. Vol. I at 32. He testified that “[i]f it work[ed], we[] [were] going to take a whole lot more.” Id. According to Mr. Veldstra, when his mother executed the letter of intent in March 1991, it was his expectation that the district would make the necessary improvements and build the infrastructure needed to deliver the surface water “relatively soon”; in fact, he anticipated that the water would be available for purchase within one or two years. Id. at 33.

Mr. Veldstra testified that conveying 100 acre-feet of surface water to his farm would have required only “a very modest electrical pump station . . . and a—probably a six-inch line, plastic line across the frontage of . . . my neighbor’s property, which he was ready and willing to do, and hooking up to our existing irrigation systems.” Id. at 33–34. He posited that a “safe estimate” or “rough guess” of what these improvements would have cost in 1991 was \$5,000. Id. at 34.

Mr. Veldstra agreed that given the distance between the Veldstra farm and Central’s main channels, it would have been expensive and difficult to make the improvements needed to be able to take delivery of surface water on more than the limited basis that was contemplated by his mother’s commitment letter. See id. at 50–52.

Mr. Veldstra acknowledged that between 1993 and 1997 he did not personally have the funds to pay for the infrastructure needed to bring even 100 acre-feet of the surface water to the property. See id. at 56. He stated, however, that the estate had “lots of money” and that he would have sought the approval of his mother and her co-trustee to use estate funds to install the infrastructure. Id. at 56–57.

Ultimately, Mr. Veldstra did not purchase any surface water for his family farm from the district. Id. at 47. He testified that he and other farmers were deeply angered by Reclamation’s announcement in 1993 that it would not make available surface water in the quantities specified in its contract with the district. See id. at 37–39; see also Stockton East III, 109 Fed. Cl. at 472 (describing public meeting held in June 1993 during which Reclamation and United States Fish and Wildlife Service (FWS) advised attendees that 250,000 acre-feet of water had been diverted from CVP contractors to fish, that this same amount would likely be needed for the fish each year, and that “in only the wettest years might [the districts] see some water” (quotation omitted; alteration in original)). Mr. Veldstra stated that he was upset that Reclamation had reneged on the contract after the district had incurred the costs of building the infrastructure to deliver the water—a cost

which was funded by a groundwater extraction fee on the farmers. Trial Tr. Vol. I at 38. According to Mr. Veldstra, were it not for Reclamation's announcements that it would not be providing the minimum amounts of water specified in the contract, he "would have been taking water every year and increasing the amounts." Id. at 43.

On cross-examination, however, Mr. Veldstra acknowledged that although, to his knowledge, Reclamation had been supplying Central with all the water it requested since 2006, he had not ordered any water from Central. Id. at 61. Instead, he was working on a plan to have his land serviced by water from another water district (South San Joaquin). Id. at 62. According to Mr. Veldstra, that option was superior for his farm because it would all be "gravity feed"; that is, it "would not require any pumping," thus obviating the need to modify his irrigation system. Id.

b. Joe Lombardi

Central's second witness was Fred "Joe" Lombardi. Mr. Lombardi has been a farmer for forty-eight years. Id. at 72. He grows multiple crops, including approximately 700 acres of walnuts. Id. at 73–74. In the 1990s, most of the land he farmed was within the Central San Joaquin Water District. Id. at 77. Mr. Lombardi owned most of the land he farmed; he leased the remainder. Id. at 77–78.

Mr. Lombardi testified that in 1991, he filled out the letter of intent on his mother's behalf. Id. at 79. In the letter, he estimated that his mother would order 3,300 acre-feet of water. Id.; see also Pl.'s Ex. 1127 at 5460. Mr. Lombardi testified that if the water were made available, he intended to purchase it. Trial Tr. Vol. I at 79.

Mr. Lombardi acknowledged that droughts occurred with some regularity in the Central Valley, observing that "[i]t's just something you deal with as a farmer" and that "[y]ou know these things happen." Id. at 80. At the time he submitted the letter to Central, he "didn't give that much thought" to whether, under the contract, he would get less water in drought years. Id. at 81. Mr. Lombardi testified that he "just thought, because we had a commitment from the district—from the government, I guess you could say, that we would be getting water." Id. Mr. Lombardi stated that he knew that "the reservoirs are huge and they have—hold a lot of water, and so I just thought we would get water." Id.

Mr. Lombardi did not personally attend Reclamation's public meetings or review written communications regarding its intent to not supply the contractual minimum amounts of water. Id. at 104–06. Mr. Lombardi testified that he nonetheless knew of Reclamation's plans based on his conversations with others in the community. Id. at 90 (testifying that he learned about Reclamation's disavowal of its contractual obligations "from the coffee shop or [by] visiting growers in the area"); see also id. at 105–06.

Mr. Lombardi testified that he was disillusioned by Reclamation's announcements. See id. at 91. His understanding, he stated, "was that we were going to get water. And it didn't occur to me that we wouldn't get water. So when it

happened . . . you know, the only thing that we have out there is our word. And if your word is not good . . . you don't do business with people anymore." Id.

Mr. Lombardi asserted that if Reclamation had made the full contractual amount of surface water available each year, including drought years, he would have used more surface water. Id. at 94–95. He explained that "[w]e would—we would have been as excited the first year as—to take that water as we were to even hear that they were going to form the district and have this surface water." Id. at 95.

On direct examination, Mr. Lombardi testified that because Central "didn't come through with their—their contract as it was explained to us," he did not purchase water from Central until 2005. Id. at 82.⁷ On cross-examination, however, he acknowledged that another reason why he did not install the infrastructure before 2005 was because he did not have the funds to do so. Id. at 102 (observing that "[w]e don't spend money we don't have" and that "it's important not to get overleveraged"). He testified that when he first installed infrastructure to take water "[i]t was a major thing, but we had the money to do it." Id. at 101.

Mr. Lombardi testified that he believed that the price of surface water and the price of groundwater were "not that different." Id. at 88; see also id. at 103 (testifying that he understood that there was no significant cost difference between surface and groundwater). In any event, he stated, price "wasn't a main concern of mine." Id. at 103; see also id. at 104 (agreeing that cost was not a significant factor in his decision to purchase surface water in 2005).

c. Raymond Owning

Raymond Owning, a retired farmer, leased land in Central's water district and owned land in the neighboring Stockton East Water District. Id. at 111–13, 119–20. In 1991, Mr. Owning submitted a letter of intent to take 1,600–1,800 acre-feet of surface water from Central to service approximately 600 acres of land. Id. at 113–14; see also Pl.'s Ex. 1127 at 5488.

Mr. Owning purchased and used surface water from Central for some of his land. Trial Tr. Vol. I at 114. He did not purchase water for the rest of his land, however, because Central had located the necessary dam in a spot where the water level was apparently too low for pumps to operate. Id. at 114–15, 127–29. Mr. Owning testified that he did not put in a dam himself because of the expense, the regulatory burden, and the fact that the availability of water was uncertain. Id. at 128–29. He further testified that although he understood that Central was going to rebuild the dam, "[they] just never got around to it" before he retired. Id. at 115.

Mr. Owning testified that he never attended any of the meetings held by Reclamation or FWS. Id. at 131. Nor did he speak with any officials at Reclamation. Id.

⁷ That year, he installed a pipeline approximately a quarter-mile in length in order to take water, at a cost of \$50,000. Trial Tr. Vol. I at 83.

He stated that he did attend a meeting that Central held at which he recalls being told that “fish came ahead of us when it came to allotment of water.” Id. He stated that this meeting was held “right about when they started, the ’91, ’95, back in there, when they started talking about it.” Id. at 131–32. Mr. Owing thought that this meeting occurred before he started receiving surface water from Central. Id. at 132.

d. Eugene Caffese

Eugene Caffese testified that he has farmed both his own land and leased land in the Central Valley for over forty-five years. See id. at 137. At the time of the trial, Mr. Caffese had been a member of Central’s Board of Directors for the preceding fifteen years. Id. at 148.

Mr. Caffese signed a letter of intent on March 8, 1991, in which he indicated that he would purchase 800 acre-feet of surface water to irrigate 320 acres of land that he owned within the district. Id. at 142–43; see also Pl.’s Ex. 1127 at 5485. Mr. Caffese testified that he took the “commitment” he made when signing the letter “seriously” and not “idly.” Trial Tr. Vol I. at 165. He agreed, however, that at the time that he signed the letter “[he] understood that this was sort of a[n] initial sign of [his] intent and it wasn’t a commitment that [he was] going to be necessarily making down the road.” Id. at 159–60. Mr. Caffese also understood when he filled out the form that he could change his mind as matters moved forward. Id. at 160.

Mr. Caffese did not purchase the full allotment of water set forth in his letter of intent. See id. In addition, Mr. Caffese testified that he received all of the water he requested from Central between 1999 and 2004. Id. at 161.

Initially, Mr. Caffese put in a pumping facility at a cost of \$15,000 to \$20,000 that would allow him to take half of the water he indicated he intended to purchase. Id. at 146–47, 153–55. He planned to add another pumping station at a later date to allow him to use surface water on the remainder of his land. Id. at 146–47, 156. For “economic reasons,” however, Mr. Caffese never installed a second pump. Id. at 147, 156. Mr. Caffese testified that these “economic reasons” included consideration of the uncertain availability of surface water. Id. at 147. According to Mr. Caffese, he concluded that the water supply was not reliable “[b]ecause the federal government wouldn’t give us the water or all the water,” an understanding he came to after reading the newspaper, conversing with directors, and hearing from his neighbors at the local coffee shops. Id. at 147–48. He did not recall personally attending any meetings held by Reclamation or Central regarding water availability. Id. at 163.

The economic considerations that led Mr. Caffese not to install the second pump also included the cost of doing so, which he estimated would have been \$25,000 to \$40,000. Id. at 155–56. Other economic considerations included how much revenue he was receiving. Id. at 156. In particular, he agreed that an important consideration would be whether the price of commodities was high enough for him to have the capital to make infrastructure improvements. Id. And he further agreed that in the mid-1990s, “commodity prices were pretty low, so it was difficult economically for [him] to install a

second pumping plant.” Id. at 156–57; see also id. at 157 (agreeing that low commodity prices were “at least part of the reason” why he did not install a second pump, and stating that he was now considering installing a second pump because of higher commodity prices and an improved economic situation).

Mr. Caffese also purchased surface water for use on 400 of 650 acres of land that he leased for farming in the district. Id. at 148–49. He used his own portable pumps to bring the surface water onto the property. Id. at 149. He testified that landlords were “very reluctant to spend any money in the—for federal water because it wasn’t reliable.” Id. Installing a permanent pump might cost \$20,000 to \$30,000 or more. Id. Mr. Caffese explained that his landlords “were against spending that kind of money and if next year Reclamation says, no, you don’t have no water.” Id.

e. James Nilsson

James Nilsson testified that he has been a farmer in the Central Valley “since the late ’60s, early ’70s” and has been a member of Central’s Board of Directors for “eight or ten years.” Id. at 168, 175. During the 1990s, Mr. Nilsson farmed between 2,000 and 2,400 acres, about 1,800 acres of which was within the district. Id. at 180–81. Of those 1,800 acres, Mr. Nilsson owned half and leased half. Id. at 181. By the time of the breach years, 1999 to 2004, the amount of land that Mr. Nilsson was farming had decreased to approximately 1,500 acres. Id.

According to Mr. Nilsson, he recalled filling out and submitting a letter of intent to take surface water for farmland that he owned in the district. See id. at 171. Central, however, was unable to locate a copy of that letter. Id.

Mr. Nilsson first began purchasing surface water from Central sometime in the 1990s, after he observed the success his neighbors were having when irrigating their farms with surface water. Id. at 182. Mr. Nilsson testified that he “was a little bit later to come on board because [he] was a little more reluctant than some of the growers.” Id. at 170. He explained that:

[W]hat I was afraid of [was] I have to pay for the infrastructure, putting it in. I got some credits for the water, but I went through that period of thinking when there was no water. And I didn’t have the cash outlay at the time to be guessing whether I was going to have water or not. I wanted something that was going to be certain. And I believe I put it in as soon as we had a little more certainty in the water delivery start coming.

Id.; see also id. at 178 (testifying that at the time that surveys were being conducted in 1991, he did not want to put in infrastructure “and then not have water, because that was a period when we thought that we were going to have water and there was no water”).

Mr. Nilsson testified that he ultimately decided to take surface water from Central because “we went through a drought . . . [a]nd we saw what it did to our water tables

and our wells, and where we were having to pump. And we knew we couldn't keep going like that. We would have to do something." Id. at 174. Mr. Nilsson took surface water to irrigate approximately 80 to 100 acres of his land located on a 350-acre plot. Id. at 173, 184. Mr. Nilsson testified that he had not taken surface water for the rest of the land he owned because it was too far from Central's distribution sources. Id. at 189–90.

Mr. Nilsson testified that there were several reasons why he never built the infrastructure needed to irrigate more of his 350-acre plot with surface water. See id. at 183–85. Over time these reasons have included the uncertainty of the availability of water, id. at 185; the costs he would need to incur to put in a pump as well as pipeline, id. at 183; and personal financial considerations, id. at 184. According to Mr. Nilsson, however, the "main" consideration had been "whether we have the water or not to pump with it." Id. at 185.

Mr. Nilsson also discussed surface water with respect to land that he leased. Id. at 175–76. He testified that he did not use surface water for any of the land he leased because his landlords did not "want to put the outlay of money" for the necessary infrastructure. Id. at 176. But he also testified that on one parcel he leased, he made use of surface water that had been used by upstream farmers and which had drained off into a channel next to the leased property. Id. at 190–92. Because this surface water was available free of charge, his landlord rejected his suggestion that the landlord install infrastructure needed to take surface water from Central. Id. at 193–94. Another landlord initially expressed interest in installing the infrastructure, but Mr. Nilsson's lease ended before any work could actually take place. Id. at 194. Mr. Nilsson did not recall ever approaching a third landlord about purchasing infrastructure to take Central's water. Id.

f. Richard Wagner

Richard Wagner is a dairyman and farmer. Id. at 202. Prior to attending college, Mr. Wagner worked on his family farm, and he returned to farming upon completing college in 1978. Id. at 202–03. The family farm, which is located in the district, is still operated by Mr. Wagner. Id. at 203. Over time, Mr. Wagner has added more acreage and properties to his holdings. Id. at 205–06.

Mr. Wagner testified that over the years he had access to groundwater from wells, as well as surface water from drainage ditches and lagoons on his dairy establishments. Id. at 207–11. In the time he has worked on his family farm, Mr. Wagner has noticed that the levels of the well water have "typically . . . gone down." Id. at 211. For that reason, when the Central irrigation district was established, Mr. Wagner thought "it was going to be a benefit for us because we were going to hopefully address the overdrafting of the underground." Id.

In 1991, Mr. Wagner heard that Central had entered into a contract with Reclamation Id. at 212. When Central sought parties interested in taking surface water, Mr. Wagner signed a letter of intent on March 15, 1991. Id. at 214; see also Pl.'s Ex. 1127 at 5458. In fact, he "had certain infrastructure in place already to be able to take

water,” and “felt that it was a real benefit to the area because . . . the district was to address the overdrafting of the underground.” Trial Tr. Vol. I at 213.

In the commitment letter, Mr. Wagner estimated that he would take 2,400 acre-feet of surface water. Pl.’s Ex. 1127 at 5458. He testified that he took this representation “seriously.” Trial Tr. Vol. I at 215. But when asked whether he “intend[ed] to take that water” at the time he filled out the letter, he responded “[w]ell, I intended to take some of it.” Id. He noted that “I mean, I’m looking at this now. You know, because I put 2400 acre-feet, 600 acres. That was pretty much the total number of acres that we had to irrigate at that time.” Id. He explained that “I don’t know that I would have been able to take all that water, you know, initially, anyway. But that would have been my intent, is to try to take as much as I could.” Id.

Mr. Wagner then began taking “a limited amount” of water as soon as it was available in the amounts he could handle with his existing infrastructure, as that did not require him “to spend any additional money.” Id. at 223–24. Eventually, Mr. Wagner put in additional infrastructure at a cost of approximately \$35,000 to take additional water on 160 acres of land that he purchased in 2004. Id. at 224–26. Mr. Wagner used Central’s capital improvement plan to offset, over time, some of the cost of the infrastructure improvements. Id. at 226–27. Mr. Wagner understood that Central had made the capital improvement program available as an enticement for farmers to put in infrastructure even in the face of uncertain water availability. Id. at 227–28.

Mr. Wagner stated that farmers were “pretty reluctant” to put out the money to build systems at “an additional expense” when the supply of water from Reclamation was not completely reliable. Id. at 228. Mr. Wagner clarified that “it wouldn’t be the smartest decision to—to spend this money and then not have the water.” Id. at 229. Regarding the availability of surface water through Central, Mr. Wagner said “it was always a year-to-year matter.” Id. at 230.

g. Johan Bartelink

Johan Bartelink is a dairyman and farmer who began farming in 1962. Trial Tr. at 254, 257 (July 13, 2016), ECF. No. 453 (hereinafter “Trial Tr. Vol. II”). Since 1967, Mr. Bartelink has had a dairy and farming operation in the Central Valley. See id. at 258. During the 1990s, the farming portion of Mr. Bartelink’s operation primarily consisted of alfalfa and corn that was partially used to feed his cattle. Id. at 260.

In 1991, Mr. Bartelink filled out a letter of intent with Central to take surface water. Id. at 261–63; see also Pl.’s Ex. 1127 at 5547. Once Central began delivering surface water, Mr. Bartelink used it on his land and found that using surface water hastened the process of irrigation and was cost effective. Trial Tr. Vol. II at 263–64.

On cross-examination, Mr. Bartelink testified that one of the reasons he had not pursued surface water from Central for a second parcel of land was because of a dispute between himself and Central’s Board of Directors that existed in the early 1990s. Id. at 270–72. That dispute arose when the Board opposed his efforts to have a section of his

land reallocated to the South San Joaquin water district, where prices for surface water were lower. Id. at 271–72. He further testified that at some point during the 1990s, he decided not to incur the expenses necessary to install the infrastructure to receive surface water on another piece of land because he understood that he could not get a “guarantee” of more than two years of surface water from Reclamation. Id. at 272–73. Mr. Bartelink was unable to state with any certainty whether he made this decision in 1993 or 1994 or later in 1998 or 1999. Id. at 273–74. He also could not recall whether or not he had ever seen any announcements from Reclamation concerning the availability of surface water to the district. Id. at 274–75.

2. Central’s Expert, Dr. Smith

In addition to the farmers, Central presented the testimony of Dr. Rodney Smith, whom the Court qualified as an expert in the field of water demand analysis and the economics thereof. Id. at 282–84; see also Pl.’s Ex. 1140 at 2 (report prepared by Dr. Smith stating that he is an expert in economic valuation of water rights, water supplies, and water projects). Central also introduced into evidence Dr. Smith’s report, whose stated purpose was “to determine a reasonable forecast of the anticipated demand for surface water by landowners in Central San Joaquin Water Conservation District . . . during 1999 through 2004 assuming that the Bureau of Reclamation did not fail to make water available to Central San Joaquin.” Pl.’s Ex. 1140 at 5; Trial Tr. Vol. II at 286.

Dr. Smith concluded that if water had been made available to Central as provided in the contract, then Central would have had a demand for 59,010 acre-feet of water in 1999, 86,155 acre-feet of water in 2000, and 90,360 acre-feet for each year beginning in 2001 and ending in 2004. Pl.’s Ex. 1140 at 5; see also Trial Tr. Vol. II at 287. He based these projections on what he called “the economic principle of revealed preference” and “the economic principle that producers select the least-cost combination of inputs in their business.” Pl.’s Ex. 1140 at 6.

With respect to the first principle—that of revealed preference—Dr. Smith explained that its premise was that “one way to determine landowner preferences for surface water is to study their decisions.” Id. at 8. Dr. Smith derived landowners’ preferences for surface water from the surveys and interviews conducted by CH2M and from the letters of intent farmers had signed in 1991 in response to Central’s solicitation. Id.; see also Trial Tr. Vol. II at 296–98. He also noted that the demand for surface water reflected in the letters of intent was “consistent with the Bureau of Reclamation’s own projections of the demand for surface water” and with “the amount specified in the district’s contract with the Bureau of Reclamation.”⁸ Pl.’s Ex. 1140 at 8.

Dr. Smith explained that in 1991, Central received letters of intent from ninety-five landowners in response to its solicitation. See id.; see also Trial Tr. Vol. II at 297. According to Dr. Smith, those letters reflected that the respondents intended to irrigate

⁸ In 1983, Reclamation “estimated Central’s New Melones water requirements at 72,000 acre-feet per year.” Stockton East III, 109 Fed. Cl. at 488.

20,132 acres of land with 53,929 acre-feet of water. Pl.’s Ex. 1140 at 8. Dr. Smith assumed a “conveyance loss” of 30% of the water that Reclamation released to the farmers. See id. According to Dr. Smith, this resulted in a conclusion that the demand for surface water in 1991, before Reclamation announced that it would not comply with the contract, would have been 77,041 acre-feet of water. Id.; see also Trial Tr. Vol. II at 298.

To determine the level of demand for the years 1999 through 2004, Dr. Smith conducted what he called an “economic analysis of the landowners['] decision[s] to connect to Central San Joaquin.” Trial Tr. Vol. II at 304. He began with the assumption that it would not be economical for farmers whose land was more than one-half mile from a stream to connect to Central’s system. Pl.’s Ex. 1140 at 9–10. He therefore defined the market for surface water as the 27,000 acres of land in the district that were within one-half mile of a stream. Id. at 10. Dr. Smith then analyzed the comparative cost of using surface water rather than groundwater for farmers whose farms were located within those 27,000 acres. Id. at 10–14. He concluded that 83.7% of the district’s acreage had an economic incentive to purchase surface water, which would translate to a demand of 90,360 acre-feet of water per year by 2001, after a ramp-up period.⁹ Id. at 14–17.

3. The Government’s Expert, Dr. Sunding

The government presented the testimony and report of Dr. David Sunding, whom the Court qualified as an expert in natural resources economics, agricultural economics, and the economics of water resources, including related uses of econometrics and surveys. Trial Tr. Vol. II at 370. Dr. Sunding challenged the validity of Dr. Smith’s analysis and conclusions in detail.

First, Dr. Sunding noted in his report that “[t]he most striking shortcoming” of Dr. Smith’s report was that “it fail[ed] to address the question of how announcements made by [Reclamation] affected demand for water from Central during the breach years.” Def.’s Ex. 1216 at 2–3. Thus, Dr. Sunding observed, while “[m]any factors could . . . have led to differences between Dr. Smith’s forecasted levels of demand and the demand actually observed during the breach years,” Dr. Smith made no attempt to identify “which portion of the difference between estimated and observed demand [wa]s due to Reclamation’s announcements.” Id. at 4; see also Trial Tr. Vol. II at 374 (opining that Dr. Smith’s analysis “fail[ed] to present a proper but-for world because he d[id not] analyze the marginal or the incremental effect of any breach-related announcements made by Reclamation on surface water demand during the breach period of 1999 through 2004”). According to Dr. Sunding, “one can’t simply assume that all differences between actual demand in the real world and Dr. Smith’s hypothetical but-for world . . . result[ed] from breach-related announcements.” Trial Tr. Vol. II at 378. He opined that the differences could have been the result of other factors, such as whether capital was available that would allow farmers to make the investments needed to bring the surface

⁹ The figure of 90,360 acre-feet was derived by taking 83.7% of 27,000 acres, multiplying it by 2.8 acre-feet per acre, and then factoring in the 30% conveyance loss. Pl.’s Ex. 1140 at 14.

water to their properties and the practical difficulties of connecting to the distribution system, “particularly over long distances or in situations where they might have to pump to a higher elevation.” Id. at 380.

Dr. Sunding further testified that what Dr. Smith called his “investment model” for forecasting demand from 1999 through 2004 was based on a “flawed methodology” because it relied “on a number of biased and unsupported assumptions” and “fail[ed] to consider factors,” testified to by the farmers, “that [were] relevant . . . to farmers’ investment[s] in water demand decisions.” Id. at 374. Specifically, according to Dr. Sunding, “Dr. Smith’s model is an incomplete representation of the actual decision that farmers make when they undertake an investment like a connection to a surface water system,” in that he had “boiled the thing down to a question of whether or not surface or groundwater is cheaper.” Id. at 385. Among other things, Dr. Sunding testified, Dr. Smith’s model did not consider whether—even assuming that they viewed surface water as cheaper—farmers might not make the investments needed to bring it to their property because they lacked the capital required and were averse to going into debt to fund the needed infrastructure. Id. at 388–89. Another factor Dr. Smith did not consider, according to Dr. Sunding, was the reluctance of landlords to pay for the infrastructure that their farmer tenants might need in order to connect to the surface water distribution system. Id. at 390. Dr. Sunding also testified that Dr. Smith’s model failed to take into account potential concerns of farmers about the relative reliability of surface water as compared to groundwater during periods of drought, when Reclamation was relieved its obligations under the contract. Id. at 391–93.

In addition, Dr. Sunding was critical of Dr. Smith’s assumption that farmers within one-half mile of a stream could readily connect to the surface water distribution system, asserting that it was inconsistent with the testimony of at least one of the farmer witnesses, who set the outer limit at one-quarter mile. Id. at 395–97. Other factors Dr. Smith did not consider, according to Dr. Sunding, were the need of some farmers to secure easements to allow them to run pipe through neighboring farmland and the difficulties involved in pumping water uphill. Id. at 397–98.

Dr. Sunding also opined that there were a number of “technical errors” in Dr. Smith’s report that had “the collective effect of inflating his surface water demand estimates.” Id. at 374. For example, Dr. Sunding noted that although Dr. Smith had assumed that farmers in 1992 would have expected to pay \$22 per acre-foot for surface water, in fact, the letters of intent contained a reference to costs of up to \$30 per acre-foot. Id. at 399. Resetting the price to \$30 per acre-foot, Dr. Sunding testified, would result in a 22% reduction in surface water demand by the full build-out time. Id. at 404. Dr. Sunding was also critical of, among other things, the interest rate that Dr. Smith used to discount future variable cost savings and Dr. Smith’s assumptions regarding the reliability of surface water. Id. at 401–02, 406–10.

Finally, Dr. Sunding criticized Dr. Smith’s reliance upon the surveys and interviews CH2M conducted with the farmers and upon the letters of intent the farmers sent to Central as indicia of “revealed preference” to support his projection of the demand for surface water in 1991 before Reclamation made its announcements. Id. at 410–13. He

stated that Dr. Smith had “misus[ed] the concept of revealed preference” and that he was “overstating the importance of the surveys as corroboration for his model results.” Id. at 411. Specifically, Dr. Sunding noted that farmers might overstate their participation because the solicitation letter did not identify the many costs (other than price of water) that a farmer might have to incur to connect to the system. Id. He further testified that the principle of revealed preference “is used in the context where someone puts real money down, makes a real commitment based on some decision.”¹⁰ Id. at 412. In fact, he noted, in some water districts, farmers responding to similar surveys are required to put down an earnest money deposit. Id. at 413. Here, however, the farmers testified that they did not view their execution of the letters of intent as binding and they put down no deposit. Id.

DISCUSSION

I. Standards and Burden of Proof

In a breach-of-contract case, to “make[] the non-breaching party whole,” the court may award expectancy damages “to give [the plaintiff] the benefits he expected to receive had the breach not occurred.” Glendale Fed. Bank, FSB v. United States, 239 F.3d 1374, 1380 (Fed. Cir. 2001); see also Energy Capital Corp. v. United States, 302 F.3d 1314, 1324–25 (Fed. Cir. 2002). “To analyze expectancy damages,” the court “looks at what would have happened ‘had the contract been performed.’” Stockton East IV, 761 F.3d at 1352 (quoting Restatement (Second) of Contracts § 344(a) (Am. Law Inst. 1981)). In other words, the court must compare what actually happened against a “‘but for’ non-breach world.” Id. at 1351.

It is the plaintiff who bears the burden of demonstrating “what might have been” absent the breach. Glendale Fed. Bank FSB, 239 F.3d at 1380; see also Energy Nw. v. United States, 641 F.3d 1300, 1308 (Fed. Cir. 2011) (“[T]he burden of proving the non-breach world . . . lie[s] with [the plaintiff].”); S. Nuclear Operating Co. v. United States, 637 F.3d 1297, 1304 (Fed. Cir. 2011) (observing that “it is incumbent upon [the plaintiff] to establish a plausible ‘but-for’ world” in order to establish its entitlement to expectancy damages (quoting Yankee Atomic Elec. Co. v. United States, 536 F.3d 1268, 1273 (Fed. Cir. 2008))). Therefore, the court will not award expectancy damages where the plaintiff has not produced sufficient evidence to “perform the necessary comparison between the breach and non-breach worlds.” Kan. Gas & Elec. Co. v. United States, 685 F.3d 1361, 1371 (Fed. Cir. 2012); see also Yankee Atomic, 536 F.3d at 1273 (noting that “[w]ithout record evidence about [the plaintiff’s] condition with full Government performance, the Court of Federal Claims could not perform the necessary comparison between the breach and non-breach worlds and thus could not accurately assess the [plaintiff’s] damages.” (citations omitted)).

¹⁰ As an example, Dr. Sunding testified, that “[i]f I go to the . . . store and buy tennis shoes that cost \$50, as an economist, I could reasonably infer that my valuation of the tennis shoes was above \$50 because I found it worthwhile to undertake the transaction.” Trial Tr. Vol. II at 412.

II. Decision

As described above, when Judge Miller previously held that Central had failed to establish its entitlement to expectancy damages, she relied in part upon the fact that the amount of surface water Reclamation made available to Central during both the breach and non-breach years exceeded the real world demand for surface water by Central's farmers. The court of appeals instructed the court to revisit the analysis of Central's entitlement to expectancy damages by specifically considering the extent to which Reclamation's breaching announcements may have depressed the demand for surface water during the breach years.

For the reasons set forth below, the Court finds that Central has failed to produce evidence sufficient to reliably quantify either the level of demand for surface water by Central's farmers before Reclamation made its first breaching announcement in 1993 or what the expected level of demand would have been in a non-breach world from 1999 through 2004. Further, even if its demand estimates were reliable, Central has not shown that it was Reclamation's breaching announcements (rather than other factors unrelated to Reclamation's breach) that caused actual demand during the breach years to fall below what Central identifies as the expected demand. For these reasons, the Court lacks a reliable basis for "perform[ing] the necessary comparison between the breach and non-breach worlds," rendering any award of expectancy damages impermissibly speculative. See Kan. Gas & Electric, 685 F.3d at 1371.

A. Demand for Water Before the 1993 Announcement

Central's contentions regarding demand for water before the 1993 announcement turn on the farmers' testimony regarding their enthusiasm for surface water and on Dr. Smith's report, which draws heavily on the pre-1993 evidence Central presented at the previous trial. Thus, Central's farmer witnesses testified that—at the time Central surveyed their interest in purchasing surface water in 1991—they were enthusiastic about the possibility of having access to this alternative source of water. The Central Valley had long been plagued by and recently experienced several years of drought. Several witnesses noted that they were concerned about the depletion of groundwater in the district, which was a product of both the frequent droughts and increased demand. See, e.g., Trial Tr. Vol. I at 29 (testimony of Mr. Veldstra). They generally welcomed the possibility that making surface water available for purchase (either by themselves or by other farmers) would result in the replenishment of the aquifers. See id. at 211–13 (testimony of Mr. Wagner); id. at 84–85 (testimony of Mr. Lombardi regarding the importance of at least some of the farmers ordering surface water to maintain the aquifer).

The farmers also described some of the benefits they believed they would secure through having surface water available to irrigate their own crops. They noted the ever-increasing costs of digging deeper wells and pumping groundwater. See, e.g., id. at 30–31 (testimony of Mr. Veldstra). Several of the farmers testified to the qualitative superiority of using surface water rather than groundwater. See id. at 34–35 (testimony of Mr. Veldstra). Others testified that using surface water allows for quicker irrigation, which

wastes less water and is also healthier for the crops. See id. at 44 (testimony of Mr. Veldstra); Trial Tr. Vol. II at 263 (testimony of Mr. Bartelink).

Further, Central observes that at least ninety-five farmers signed letters of intent in 1991 in which they provided their best estimates of the amount of surface water they expected to purchase once it became available. Based on these letters, and applying the principle of “revealed preference,” Central’s expert, Dr. Smith, concluded that in 1991 (two years before Reclamation announced that it would not comply with the contract), farmers’ enthusiasm for surface water would have translated into a demand for 77,041 acre-feet of water. Trial Tr. Vol. II at 298.

The Court agrees that in 1991, farmers in the district were enthused about Central’s plans to make surface water available for purchase. It finds unpersuasive, however, Central’s argument that absent the breaching announcements, this enthusiasm would have translated into the level of demand for surface water to which Dr. Smith testified.

First, Dr. Smith’s conclusion regarding the level of farmer demand for surface water in 1991 is largely reliant upon his “revealed preference” analysis of the non-binding letters of intent the farmers signed (and to which Central alluded in the previous trial). As Dr. Sunding explained, however, the principle of revealed preference Dr. Smith cited applies where binding commitments have been made and where an individual has “put[] real money down.” Id. at 412. And the Court finds persuasive Dr. Sunding’s observation that the letters of intent and survey responses upon which Dr. Smith relied “are not . . . example[s] of revealed preference” because “they do not represent actual decisions or actions.” Def.’s Ex. 1216 at 6.

Thus, although the letters of intent had as their subject line “commitment to purchase surface water,” and stated that “[t]he undersigned hereby commits to purchase surface water from the District at the delivery channels for an estimated charge not to exceed \$30 per acre-foot,” it is undisputed that the farmers who completed and submitted letters of intent were not, and did not consider themselves legally bound to order any particular amount of surface water. Moreover, none of the witnesses put down any money as a deposit, as Dr. Sunding testified was sometimes required by other districts in similar circumstances. Trial Tr. Vol. II at 411–13. The solicitation accompanying the letters did not require that farmers actually commit to take any specific amount of water either in the first year that the project became operational or in any subsequent year. Rather, it asked that farmers provide their “best estimate” of the water that the farmer might order “when available” because “[t]he debt must be paid regardless of the quantity of water actually sold.” Pl.’s Ex. 1134. It advised that the letters would be used to make “a list of expected water users,” that such “expected” users would be contacted when water was available, and that at that time “[a]nnual contracts will be executed setting forth the quantity of the water to be taken and the price to be paid.” Id.

Dr. Sunding further explained that rather than accurately revealing the farmers’ preferences, the letters of intent might tend to overstate farmer demand for surface water. Trial Tr. Vol. II at 415. As Dr. Sunding pointed out, the nonbinding survey process may

have actually contained an incentive for farmers “to shade the truth in the direction of overstating their demands” because doing so enabled them to keep their options open. Id.

The Court also finds it significant that at least two of the seven witnesses that Central selected to serve as representatives of Central’s farmers generally acknowledged that they did not intend to purchase or might not purchase the amounts of water they purportedly committed to purchase in their letters of intent. One of Central’s witnesses acknowledged that he intended to take only “some” of the water he had committed to take in executing his letter of intent. Trial Tr. Vol. I at 215 (testimony of Mr. Wagner). Another agreed that at the time he signed the letter, he understood it as “a[n] initial sign of [his] intent” and not as “a commitment that [he was] going to be necessarily making down the road.” Id. at 159-60 (testimony of Mr. Caffese).

Moreover, the Court shares Judge Miller’s reluctance to rely upon the letters of intent to draw conclusions about the quantities of surface water farmers would have actually purchased because many of them would have been required to invest significant amounts of time and money in infrastructure and equipment in order to use the water. Stockton East III, 109 Fed. Cl. at 490 (citing testimony establishing that it could take several months to install the necessary equipment and that such equipment might cost “anywhere from \$6,000.00 to \$30,000.00” (internal quotation omitted)).¹¹ Judge Miller’s concerns were based on the fact that the letters of intent were not placed into evidence during the initial damages trial, so that it was “impossible to determine whether and to what extent those letters addressed the costs associated with the use of surface water, and therefore the nature of farmer enthusiasm apparently expressed in the letters of intent.” Id.

¹¹ In fact, as noted above, testimony regarding applications to Central’s capital improvement program showed that equipment costs ranged from \$8,200.00 to \$136,396.59, and averaged roughly \$35,000.00. See Stockton East III, 109 Fed. Cl. at 490. Other testimony presented in the first damages trial, and cited by the government in its post-trial brief, described additional costs, inconveniences, and risks attendant to converting to the use of surface water. For example, a farmer who converts to the use of surface water must still maintain his groundwater-pumping facilities to irrigate areas that cannot be reached by surface water and to use when surface water is unavailable, including in times of drought. See Trial Tr. at 2228–29 (Sept. 18, 2012), ECF. No. 349 (testimony of irrigation scientist and water resource engineer Ali Shahroody). Therefore, farmers who use surface water must maintain multiple sets of pumping facilities and bear all associated costs, including standby electricity charges for all pumps. See id. at 2228–30. In addition, a farmer may access groundwater at will simply by turning on the pump. See id. at 2230–32. Deliveries of surface water must be scheduled with Central in advance of the time they are needed. See id. Finally, while surface water may be abundant in some years, in times of drought it may vanish because Central’s contract with Reclamation absolves the United States of liability for failure to offer Central surface water when a water shortage is caused by drought, as occurred in 1994 and 1995. See id. at 2229; see also Stockton East II, 583 F.3d at 1363–64.

While the letters of intent are now in evidence (along with the testimony of several farmers who executed such letters), they have, to a certain extent, validated Judge Miller's skepticism because it is now clear that the letters of intent did not, in fact, address in any way the costs associated with building the infrastructure needed to receive surface water. As Dr. Sunding explained, the fact that the solicitation letter did not identify the many costs that a farmer might have to incur to connect to the system may have led farmers to actually overstate their estimates. See Trial Tr. Vol. II at 394–95.

To be sure, the farmers testified that they were aware when they signed the letters of intent that in order to actually use surface water, they would have to invest in infrastructure and in some cases secure easements that would allow them to run pipe over their neighbors' lands. But because the letters were not binding, there is no reason to believe that the estimates reflected careful consideration (much less actual calculation) of the up-front costs and other actions that would need to be taken in order to use surface water. Further, the farmers who filled in the letters were not advised that—in the event of drought—Reclamation would not be required to make surface water available to Central. At least one of the farmers, Mr. Lombardi, apparently assumed that drought would not affect Reclamation's obligations. Trial Tr. Vol. I. at 81. To the extent that the farmers expected that Reclamation would have an obligation to supply surface water even in drought years, it may have led them to over-estimate the amount of water they would purchase.

In fact, while several farmers provided after-the-fact estimates of what it might have cost for them to access surface water, none of the farmer witnesses were asked about whether and to what extent they actually thought through or calculated the costs involved (or the resources available to them), at the time they executed the letters of intent. See, e.g., id. at 34 (testimony of Mr. Veldstra). There is no evidence at all that any of them performed the kind of due diligence that one might expect if they were putting real money on the line.

For these reasons, the Court finds that Central has failed to provide a reliable quantification of the actual demand for surface water before Reclamation made its 1993 announcement.

B. Effect of Announcements on Demand

As noted, in addition to relying upon Dr. Smith's testimony and the letters of intent to establish the level of demand for surface water that existed before 1993, Central also relied upon Dr. Smith to establish what the expected demand for surface water would have been during the breach years had Reclamation complied with the contract. From that starting point, Central then cites the testimony of the farmers and argues that the shortfall between actual demand and the demand projected by Dr. Smith's analysis was caused by the breaching announcements. Central asks for an award of damages based on the difference between the number of acre-feet Reclamation actually made available during the breach years, and the number of acre-feet Dr. Smith projects would have been

demanded had the water actually been made available.¹² For the reasons set forth below, these arguments are unpersuasive.

1. Dr. Smith's Testimony

The Court is not persuaded by Dr. Smith's testimony that if Reclamation "did not fail to make water available to Central," the demand for surface water in the district during the breach years would have been 59,010 acre-feet of water in 1999, 86,155 acre-feet of water in 2000, and 90,360 acre-feet for each year beginning in 2001 and ending in 2004. See Pl.'s Ex. 1140 at 5; see also Trial Tr. Vol. II at 287.

For one thing, Dr. Smith used his unreliable quantification of pre-announcement demand (discussed above) to estimate what demand would have been during the breach years following a ramp-up period. His analysis of demand in the but-for world is therefore infected by the same flawed assumptions regarding farmer demand as his analysis of the pre-breach years.

Further, the Court agrees with Dr. Sunding's additional critiques of the methodology Dr. Smith used to arrive at his conclusions regarding demand in the but-for world. See Trial Tr. Vol. II at 372 (testifying that Dr. Smith's report suffers from "a number of fatal flaws on several levels"). In particular, Dr. Smith stated that his analysis of demand during the breach years relied upon an economic model of landowners' decisions to install necessary infrastructure that was based on "the comparative cost to the landowner of using surface water versus groundwater." Id. at 304.¹³ As Dr. Sunding observed, however, Dr. Smith's premise—that "83% of the landowners within one-half mile of an irrigation channel or stream" would have viewed surface water as less costly—

¹² As set forth in Judge Miller's opinion, Reclamation delivered the following amounts of water to Central from 1999 through 2004:

1999	33,786 acre-feet
2000	27,759 acre-feet
2001	25,750 acre-feet
2002	10,503 acre-feet
2003	9,845 acre-feet
2004	13,605 acre-feet

Stockton East III, 109 Fed. Cl. at 474.

¹³ According to Dr. Smith, "[t]he cost of the surface water" used in his model "was the rate charged for the surface water, plus . . . operating costs incurred by the landowner from lifting the available surface water out of the nearby stream into its operations." Trial Tr. Vol. II at 304. Dr. Smith assumed an operating cost of \$6 per acre-foot, which was the maximum lift cost identified by Central's consulting hydrologist, Mr. Durbin. Id. at 305.

appears to be at odds with the perceptions of at least some of the testifying farmers. See id. at 396–97.

For example, Mr. Lombardi testified that he understood that surface water was “priced pretty much so that it’s close,” and that the “price is not that different.” Trial Tr. Vol. I at 88. Mr. Caffese similarly agreed that “the cost for surface water and the cost for groundwater were approximately the same.” Id. at 160. Mr. Wagner also agreed that “the price of surface water is pretty comparable to the price of groundwater.” Id. at 240.¹⁴

Second, as Dr. Sunding observed, the notion that some 83% of farmers within a half-mile of an irrigation channel would have purchased surface water because surface water was cheaper provides “an incomplete representation of the actual decision that farmers make when they undertake an investment like a connection to a surface water system.” Trial Tr. Vol. II at 385.

Thus, the relative prices of surface water and groundwater are only two of the factors a farmer would consider before making such an investment. Other factors identified by the testifying farmers would include general economic factors, including, among other things, commodity prices, the farmers’ own financial position and tolerance for risk, the farmers’ access to the capital needed to finance infrastructure, their comfort level with indebtedness, their ability to secure easements from other property owners to run pipe, and the availability of alternative sources of water.

Further, many of the testifying farmers leased at least a portion of the land that they farmed. In order to purchase more surface water, these farmers would have had to convince their landlords to grant them permission to install infrastructure and, in some cases, persuade their landlords to finance it. Dr. Smith’s analysis does not include any consideration of how much of the land within a half-mile of Central’s channels was leased land, or of what factors a landlord might consider in deciding whether to grant or withhold such permission or whether it would be a good investment to finance the infrastructure. See id. at 390.

Perhaps most significantly, Dr. Smith offers no explanation why actual demand for water during the breach years did not come close to his projections and, in fact, was below the amount of water Reclamation actually made available. Central would have the Court infer that it was the breaching announcements that caused the shortfall. But Dr. Smith did not isolate the effect of the breaching announcements on farmers’ demand for surface water during the breach years from the possible effects of other factors, including

¹⁴ When asked about whether it would change his analysis if he learned that farmers “were unaware of the cost differential between surface water and groundwater,” Dr. Smith stated that he would “have to know more about the circumstance of what the person’s talking about” so that he could determine whether those individuals fell within the 83.7% of farmers he was describing for whom he assumed surface water was more cost effective. Id. at 311–12. But there is nothing in the record to suggest that Dr. Smith undertook such further inquiry to test his theory.

droughts, crop prices, and the relative cost of pumping groundwater. Therefore, Dr. Smith's testimony did not truly address the question before the Court on remand.

2. The Farmers' Testimony

Finally, even if Dr. Smith's testimony was persuasive, the farmers' testimony regarding the effect of the breaching announcements would not supply the missing link between the demand that Dr. Smith projected in a non-breach world and actual demand. To be sure, the Court is persuaded by the farmers' testimony (and by common sense) that concerns about the availability of surface water were a factor that discouraged at least some farmers from making the investments needed to receive it. The Court also acknowledges that some farmers were angered by Reclamation's disavowal of its agreement with Central, particularly after the district had expended money to build infrastructure, which it financed with a groundwater extraction fee on the farmers. The Court does not give much credence, however, to the farmers' blanket assertions, some twenty years after the fact, that they would have purchased much larger amounts of surface water during the breach years were it not for the breaching announcements.

First, the Court is not convinced that the concerns the farmers expressed about the availability of surface water would not have been present irrespective of Reclamation's announcements. Thus, it is evident to the Court that the frequent droughts that plagued the district during the relevant time period also made farmers reluctant to invest in infrastructure. See Trial Tr. Vol. I at 173 (Mr. Nilsson explaining that he delayed putting in infrastructure because "there was several years there, then, that we didn't get water" on account of "the droughts or the water went to the fish"). Indeed, during their testimony, some of the farmers conflated their concerns about Reclamation's disavowal of the contract with their concerns about the effects of drought. See id. at 170, 178 (Mr. Nilsson was more hesitant than his neighbors to put in infrastructure even before 1993 announcements because he was concerned about supply); id. at 92–93 (Mr. Lombardi testifying that "to get water to my field, I might have to spend \$50,000 [on infrastructure]," that "I just can't go out there and spend that kind of money if I'm not sure what's going to happen," and that one year "you might have a drought . . . [s]o you may not get the water" while "[f]or that next year, Reclamation might decide, well, we need more water for the fish [so] [y]ou're not going to get it"); but see id. at 143 (Mr. Caffese agreeing that he was willing to sign letter of intent even though supply of surface water might be affected by droughts). In some instances the testifying farmers seemed unaware of the fact that, in the event of a drought, Reclamation would be relieved of its contractual obligations. Id. at 81 (testimony of Mr. Lombardi).

Second, even to the extent that the announcements themselves may have discouraged the farmers from building the infrastructure and/or taking other actions necessary to take delivery of surface water from Central, the record reveals many other reasons (described above) why farmers might have chosen not to take the steps necessary to purchase surface water. These included, among others, the cost of building infrastructure (both in terms of time and money); each farmer's financial solvency; the distance between the channels and a farmer's property; the need to secure easements from other property owners to run pipe; the availability of alternative sources of water;

and other individualized factors. Given the influence of these factors and Central's failure to address them in its expert testimony, its claim that demand for surface water would have exceeded the amounts Reclamation actually made available absent Reclamation's breaching announcements is entirely speculative.

In short, although the Court finds that Reclamation's breaching announcements likely suppressed farmer demand for surface water to at least some extent during the breach years, Central has not presented proof adequate to permit the Court to quantify the extent to which demand was suppressed with any degree of confidence. Therefore, Central has not shown that—in a world where Reclamation never made the breaching announcements—the demand for surface water would have exceeded the amount of water Reclamation actually made available in the breach years. Central, accordingly, has not established its entitlement to any expectancy damages.

CONCLUSION

For the foregoing reasons, the Court concludes that Central has failed to establish an entitlement to expectancy damages for the breach years. It therefore is not entitled to any further relief on its breach-of-contract claims. The Clerk is directed to enter final judgment accordingly. Each side shall bear its own costs.

IT IS SO ORDERED.

s/ Elaine D. Kaplan

ELAINE D. KAPLAN
Judge